

Claims

1. A method for producing three-dimensionally arranged conducting and connecting structures for volumetric and energy flows, whereby different light-setting materials are employed for producing the layers. When the materials are exchanged, also the layer areas where no setting has occurred in the preceding setting process, are filled with new material as well, so that in the subsequent setting process, not only the uppermost layer is connected with the one lying directly below it, but material of the uppermost layer is connected also to the material of a layer lying below the second-last layer. Thus it is possible within a layer sequence to connect a structure with varying properties from layer to layer.

2. The method according to claim 1, characterized by the following steps of the method:

- (a) A structured layer is generated by structured prefabrication of a liquid, light-setting material with selected physical, chemical or biological properties.
- (b) The structured layer is cleaned of the uncured material by means of a flushing process, filled with liquid, light-setting material with other

physical, chemical or biological properties, and covered with a defined layer thickness according to DE-PS 44 20 996.

- (c) Areas of the first layer and the new layer are cured in a structured manner by structured solidification.
- (d) The structured layers are cleaned of uncured material of the last structuring by means of a flushing process, filled with liquid light-setting material with other physical, chemical and biological properties, and covered with a defined layer thickness according to DE-PS 44 20 996.
- (e) Areas of the second layer and the new layer are cured in a structured manner by structured solidification, generating in this manner a connection of materials with the same physical, chemical or biological properties, or an insulation of said materials.
- (f) The structured layers are cleaned of the uncured materials of the last structuring by means of a flushing process.

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- (g) Areas not filled with material are fitted with electronic, mechanical, optical or chemical components according to the system to be produced.
- (h) The structured layers and the components are filled with liquid, light-setting material with other physical, chemical and biological properties, and covered with a defined layer thickness according to DE-PS 44 20 996.
- (i) Areas of the second-last layer and the new layer are cured in a structured manner by structured solidification, generating in this manner a connection of materials and components with the same physical, chemical or biological properties, or an insulation of such materials and components.

3. The method according to claim 2, characterized in that several electronic, mechanical, chemical or biological/electrical components are connected to each other.

4. The method according to claim 3, characterized in that the connections between the components and the environment of the system can be used for volumetric and energy flows.

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